S/075/62/017/007/001/006
B119/B186

AUTHORS: Rusanov, A. K., Alekseyeva, V. M., Il'yasova, N. V., and Khitrov, V. G.

TITLE: Spectrographic quantitative determination of small concentrations of rare earths in rocks and minerals

PERIODICAL: Zhurnal analiticheskoy khimii, v. 17, no. 7, 1962, 809 - 819

TEXT: A direct simultaneous determination of rare earths in ores was made using a ДФС-13 (DFS-13) diffraction spectrograph having a dispersion of 4 - 2 Å/mm. The spectrum was excited by evaporating the powder sample, mixed with buffer mixture, in a carbon arc discharge. Otherwise, the procedure followed the traditional spectrographic method. The standard experimental error of the method is 15%. The sensitivity of determination is 0.001% for Yb, 0.003% for Tu and Y, 0.005% for La, 0.01% for Nd, 0.03% for Pr, Gd, Dy, and Lu, 0.04% for Ce, 0.05% for Sm, Eu, Tb, Ho, and Er. The sensitivity can be increased to the 30 - 100 times by a simple chemical enrichment of the samples with rare earths. In the original paper the analytic spectrum lines of the rare earths and of the disturbing elements

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S/075/62/017/007/001/006
B119/B186

Spectrographic quantitative determination...

were tabulated on 5 pages. There are 3 figures and 4 tables. The most important English-language reference is: J. A. Morris, C. E. Repper, Analyt. Chem. 24, 1399 (1952).

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya, Moskva (All-Union Scientific Research Institute of Mineral Raw Materials, Moscow)

SUBMITTED: December 30, 1961

Card 2/2

ACC NR: AP6028191 (A) SOURCE CODE: UR/0032/66/032/006/0696/0700

AUTHOR: Rusanov, A. K.; Alekseyeva, V. M.; Il'yasova, N. V.

ORG: All-Union Scientific Research Institute for Mineral Raw Materials (Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya)

TITLE: Elimination of the mutual effect of tantalum and niobium in the spectrum analysis of mineral ores

SOURCE: Zavodskaya laboratoriya, v. 32, no. 6, 1966, 696-700

TOPIC TAGS: spectrum analysis, tantalum, niobium cobalt compound

ABSTRACT: The article proposes a spectral method for simultaneous determination of niobium and tantalum, which eliminates the mutual effect of these two elements. The method is based on the addition of cobalt chloride to the samples being analyzed. In the interval 0.003-0.1%, the reproducibility (variation coefficient) of a single determination of tantalum and niobium is 11%. It was found that the effect of niobium on the intensity of the tantalum lines can be eliminated by the creation of conditions under which tantalum will appear in the arc cloud independently of the appearance of niobium. This is achieved by the addition to the samples of reagents (metal chlorides or fluorides) which lead to the formation of new compounds. The experimental results given in the article were obtained by additions of anhydrous cobalt chloride. It

Card 1/2 UDC: 543.42

MOSHKOVSKIY, Sh.D.; SHUYKINA, E.Ye.; DEMINA, N.A.; TIKHURSKAYA, N.A.; VRUBLEVSKAYA, O.S.; ZHUKOVA, T.A.; ZABEZHANSKIY, V.I.; Prinimali uchastiye: BAGRAMYAN, M.G.; IL'YASOVA, S.I.

Methodology of the detection of asymptomatic carriers of quartan malaria. Med. paraz. i paraz. bol. 34 no.2:184-188 Mr-Ap '65. (MIRA 18:11)

1. Otdel protozoologii Instituta meditsinskoy parazitologii i tropicheskoy meditsiny imeni Ye.I. Martsinovskogo Ministerstva zdravookhraneniya SSSR, Moskva.

ROSHCHIN, I.V.; NIFONTOVA, M.V.; PROKHOROV, Yu.D.; BAKHOVA, M.D.; KUBLANOVA, P.S.; ILYASOVA, S.V.; BULYCHEV, G.V.

Hygienic characteristics of the dust factor, and health of workers engaged in cleaning boilers of electric stations. Uch.zap.Mosk. nauch.-issl.inst.san.i gig. no.8:64-70'61. (MIRA 16:7)
(LUNGS—DUST DISEASES) (BOILERS)

3(5) PHASE I BOOK EXPLOITATION SOV/2219

RSFSR. Glavnoye upravleniye geologii i okhrany nedr

Geologiya i neftegazonosnost' Vostochnoy Sibiri (Geology and Oil- and Gas-bearing Possibilities of Eastern Siberia) Moscow, Gostoptekhizdat, 1959. 486 p. 1,650 copies printed.

Additional Sponsoring Agency: Vostochno-Sibirskiy neftegeologicheskiy trest.

Ed.: V.G. Vasil'yev; Executive Ed.: Ye.G. Pershina; Tech. Ed.: I.G. Fedotova.

PURPOSE: The book is intended for geologists interested in the stratigraphy, lithology, tectonics, and the oil- and gas-bearing possibilities of the Eastern Siberian platform and Zabaykal'ye.

COVERAGE: This collection of articles contains materials on the stratigraphic classification and lithologic characteristics of sediments of the Cambrian system and of the so-called "ancient" beds developed along the northern slope of the Eastern Sayan Mountains and

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the western littoral of Lake Baykal. Extensive information on the petrography and paleontology of these deposits is presented. A number of articles deal with the tectonics of the southern part of the Siberian platform and its oil- and gas-bearing possibilities of the Baykal-type depressions. There are 40 tables, 74 figures, and 4 charts. There are 205 Soviet references.

TABLE OF CONTENTS:

Geology and Oil- and Gas-bearing (Cont.) SOV/2219

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8-20-59

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DEMSKIY, A., inzh.; TAMAROV, Ye., inzh.; KALASHNIKOV, N., inzh.; SHISKIN, N., inzh.; LEYKIN, A., inzh.; IL'YEMINI, I., inzh.

New machines for mills and elevators. Mak.-elev. prom. 28 no.9: 22-26 S '62. (MIRA 15:10)

1. Gor'kovskiy mashinostroitel'nyy zavod im. Vorob'yeva (for Demskiy, Tamarov, Kalashnikov, Shishkin). 2. Vsesoyuznyy, nauchno-issledovatel'skiy i eksperimental'no- konstruktorskiy institut prodovol'stvennogo mashinostroyeniya (for Leykin). 3. Khar'kovskaya mashinoispytatel'naya stantsiya.

(Grain-handling machine)

LEYKIN, A.; IL'YEMINI, I.

Screw conveyor-loader for grain. Muk.-elev. prom. 29 no.3:24-25 Mr '63. (mira 16:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy i eksperimental'no-konstruktorskiy institut prodovol'stvennogo mashinostroyeniya (for Leykin). 2. Khar'kovskaya mashinoispytatel'naya stantsiya (for Is'yemini).

GELESKUL, M.N., kand.tekhn.nauk; IL'YENKO, A.A., gornyy inzh.;
USAK-PODGORNOV, B.M., gornyy inzh.

Use of reinforced concrete arch supports in the Donets Basin mines. Ugol' Ukr. 6 no.11:11-13 N '62. (MIRA 15:12)

1. Institut gornogo dela im. A.A.Skochinskogo.
(Donets Basin—Mine timbering)

IL'YENKO, A.I.

Sparrows as poultry farm pests. Ptitsevodstvo 8 no.6:35 Je '58.
(MIRA 11:6)

1.Kafedra zoologii posvonochnykh Moskovskogo universiteta imeni M.V. Lomonosova.
(Sparrows) (Parasites--Poultry) (Birds as carriers of disease)

KARASEVA, Ye.V.; IL'YENKO, A.I.

Some features of the biology of Microtus oeconomus studied on tagged animals. Mat. k poznan. fauny i flory SSSR. Otd. zool. no.37:171-184 '57. (MIRA 11:1)

(Moro region--Field mice)

ZEMSKAYA, A.A.; IL'YENKO, A.L.

Gamasidae in house and field sparrows in Moscow and the Moscow area. Med. paraz. i paraz. bol. 27 no.4:475-481 Jl-Ag '58. (MIRA 12:2)

1. Iz otdela infektsiy s prirodnoy ochagovost'yu Instituta epidemiologii i mikrobiologii imeni pochetnogo akademika N.F. Gamaleĭ AMN SSSR (dir. instituta - prof. S.N. Muromtsev, zav. otdelom - prof. P.A. Petrishcheva).

(MITES
Gamasidae in sparrows in Russian cities (Rus))
(BIRDS,
same)

IL'YENKO, A.I.

Factors determining the beginning of the reproduction period in house sparrow populations (Passer domesticus L.). Zool.zhur.37 no.12:1867-1873 D '58. (MIRA 12:1)

1. Chair of Vertebrate Zoology, Biological Pedological Faculty, Moscow State University.
(Moscow--Sparrows)

IL'YENKO, A.I.

Materials on reproduction in the house sparrow (Passer domesticus L.) in Moscow. Nauch.dokl.vys.shkoly; biol.nauki no.1:33-39 '59. (MIRA 12:5)

1. Rekomendovana kafedroy zoologii posvonochnykh Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova.
(MOSCOW--SPARROWS) (BIRDS--PHYSIOLOGY)

IL'YENKO, A.I.

Ecological factors influencing the infection of the house sparrow (Passer domesticus L.) with gamasid mites. Zool.zhur. 38 no.7: 1060-1068 Jl '59. (MIRA 12:10)

1. Chair of Vertebrate Zoology, Biological-Pedological Faculty, Moscow State University.
(Moscow Province--Mites) (Parasites--Sparrows)

KARASEVA, Ye.V.; IL'YENKO, A.I.

Studying the biology and geographical distribution of shrews in northern Kazakhstan. Trudy Inst. zool. AN Kazakh. SSR 13:78-92 '60. (MIRA 13:7)

1. Otdel infektsiy s prirodnoy ochagovost'yu Instituta epidemiologii i mikrobiologii im. N.F. Gamaleya.
(Kazakhstan--Shrews)

IL'YENKO, A. I., Cand Bio Sci -- "Ecology of the domestic sparrow (Passer domesticus L.) in the city of Moscow and suburbs ~~environs~~, in connection with its potential epidemiological and economic value ~~significance~~." Mos, 1961. (Mos State Ped Inst im V. I. Lenin) (KL, 8-61, 237)

IL'YENKO, A.I.; ZAGORODNYAYA, G.Yu.

Importance of artificial nesting places as night shelters in winter for some birds nesting in tree hollows. Zool. zhur. 40 no.11: 1736-1738 N '61. (MIRA 14:11)

1. Biological-Pedological Faculty, State University of Moscow.
(Birds, Protection of)

IL'YENKO, A.I.

Harmfulness and usefulness of house sparrows. Priroda 51 no.2:111-112 F '62. (MIRA 15:2)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Sparrows)

IL'YENKO, A.I.

Studying seasonal changes in the weight of small birds. Ornitologiia no.4:427-430 '62. (MIRA 16:4)

(Birds—Physiology)

IL'YENKO, A.I.

Development of local populations of the great tits. Zool. zhur. 41 no.5:736-743 My '62. (MIRA 15:6)

1. Complex Laboratory, Biologico-Pedological Faculty, State University of Moscow.

(Titmice)

IL'YENKO, A.I.

Nesting relations of birds in the settlements of the Moscow region. Nauch.dokl.vys.shkoly; biol.nauk no.2:41-45 '63. (MIRA 16:4)

1. Rekomendovana kafedroy zoologii posvonochnykh Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova.
(MOSCOW REGION—BIRDS—EGGS AND NESTS)

PETROVA, A.D.; DUROVA, L.I.; IL'YENKO, A.I.

Effectiveness of DDT in the control of mites and fleas in artificial bird nesting places. Nauch. dokl. vys. shkoly; biol. nauki no.3: 23-27 '63. (MIRA 16:9)

1. Rekomendovana zoologo-entomologicheskoy laboratoriyey biologo-pochvennogo fakul'teta Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova.
(DDT (Insecticide)) (Parasites--Birds)

IL'YENKO, A.I.; ZUBCHANINOVA, Ye.V.

Year-round observations of labeled red-backed bank voles and wood mice in the Moscow region. Zool. zhur. 42 no.4:609-617 '63. (MIRA 16:7)

1. Institute of Biological Physics, Academy of Sciences of the U.S.S.R., Moscow.
(Moscow region--Field mice)

IL'YENKO, A.I.; ZHANTIYEV, R.D.

Feeding habits of house sparrows in the central part of Moscow Province. Zool. zhur. 42 no.11:1736-1740 '63. (MIRA 17:2)

1. Biologico-Pedological Faculty, State University of Moscow.

30088
S/057/61/031/011/003/019
B104/B108

26.2311

AUTHORS: Il'yenko, B. P., and Zykov, V. G.

TITLE: Experimental determination of the regions of magnetic surfaces limited by a separatrix

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 11, 1961, 1289 - 1293

TEXT: Attempts are made to determine experimentally the regions of magnetic surfaces limited by a separatrix as functions of the longitudinal magnetic field and the current in a stellarator coil, using a model in which the plasma is simulated by an electron beam. The experimental device is a cylindrical vacuum chamber made of glass (10 cm in diameter, 80 cm long), which is evacuated down to $5 \cdot 10^{-6}$ mm Hg. An electron gun injecting electrons of 1000 - 1500 ev is installed at one end of the tube. At the other end there is a fluorescent screen for observing the shape and size of the electron beam. The longitudinal magnetic field is generated by a single-layer solenoid (14 cm in diameter, 60 cm long). The stellarator field is generated by a coil which is mounted to the glass

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S/057/61/031/011/003/019
B104/B108

Experimental determination of the ...

tube (three pairs of turns with a radius of 5.5 cm, at a pitch of 60 cm). Both coils are fed from separate sources, and the currents flowing in them can be controlled independently. An out-of-focus electron beam was injected to determine the regions limited by the separatrix. Measurements were made at H_z = 20 oersteds. When the stellarator field and the longitudinal magnetic field were switched on simultaneously the image on the screen changed from a circle into a triangle. Its vertices pointed toward those turns of the stellarator coil, in which the current was directed opposite H_z. When the screen was moved along the axis of the tube, the triangle rotated. L. Spitser (Dokl. na II Zhenev. Konf. po mirn. ispol'z. atom. energii, 1958), A. I. Morozov, A. S. Solov'yev (ZhTF, 30, 271, 1960) and V. F. Aleksin (K raschetu magnitnogo polya stellaratora, nast. vyp., str. 1284) are mentioned. The authors thank V. F. Aleksin and V. T. Tolok for advice, and K. D. Sinel'nikov, Member of the AS UkrSSR, for assistance and interest. There are 8 figures, 2 tables, and 4 references: 2 Soviet and 2 non-Soviet.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN USSR (Physicotechnical Institute AS UkrSSR)

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30088
S/057/61/031/011/003/019
B104/B108

Experimental determination of the ...

SUBMITTED: September 10, 1960

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ACCESSION NR: AT4036061 S/2781/63/000/003/0211/0216

AUTHORS: Il'yenko, B. P.; Zy*kov, V. G.; Lats'ko, Ye. M.; Tolok, V. T.

TITLE: Measurement of the twist angle and turning angle of a force line in a system with a helical magnetic field

SOURCE: Konferentsiya po fizike plazmy* i problemam upravlyayemogo termoyadernogo sinteza. 3d, Kharkov, 1962. Fizika plazmy* i problemy* upravlyayemogo termoyadernogo sinteza (Plasma physics and problems of controlled thermonuclear synthesis); doklady* konferentsii, no. 3. Kiev, Izd-vo AN UkrSSR, 1963, 211-216

TOPIC TAGS: magnetic mirror, plasma confinement, magnetic field, magnetic pinch, plasma magnetic field interaction, electron beam, charged particle motion

ABSTRACT: The work described is a continuation of earlier experi-

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ACCESSION NR: AT4036061

ments on the confinement of plasma in traps of the stellarator type (ZhTF v. 31, 1289, 1961 and v. 32, 1190, 1962). The paper is devoted to an experimental investigation of the twist angle and turning angle in systems with helical magnetic fields, using a vacuum chamber 9 cm in diameter and 140 cm long (straight copper tube). The longitudinal magnetic field was produced by 12 single-layer coils and had a maximum in the axial direction of 3.4×10^4 A/m. The charged particles were confined in the stellarator by external magnetic field in which each force line was gradually wrapped around the axial line of the chamber. The twist angle of the force lines were measured with the aid of a rotating electron gun, the construction of which is described elsewhere (ZhETF, v. 32, 1190, 1962). The measurement results were compared (in an axial magnetic field 3.4×10^4 A/m and at a current of 440 A) with the theoretical formula. The force-line rotation angle was measured on the curved section of the stellarator model in a longitudinal magnetic field 7.2×10^4 A/m and at a current of 1100 A in the coil. The measurements

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ACCESSION NR: AT4036061

have shown that the angular rotation of the beams on the external side of the curvilinear section is larger than on the external side. This difference does not affect the motion of the particles in the closed system, since the average turning angle remains the same and depends only on the radius. The measurement results showed satisfactory agreement with the calculated data. Orig. art. has: 7 figures and 2 formulas.

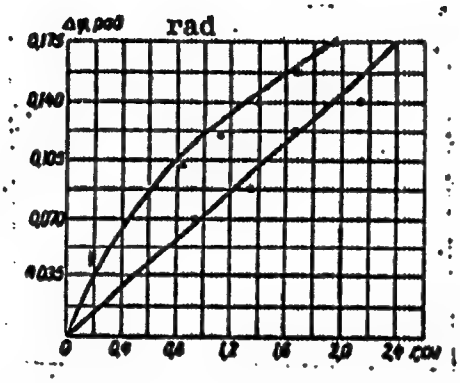
ASSOCIATION: None

SUBMITTED: 00 DATE ACQ: 21May64 ENCL: 02

SUB CODE: ME NR REF SOV: 004 OTHER: 000

Card 3/5

ACCESSION NR: AT4036061 ENCLOSURE: 01



Dependence of twist angle on the radius

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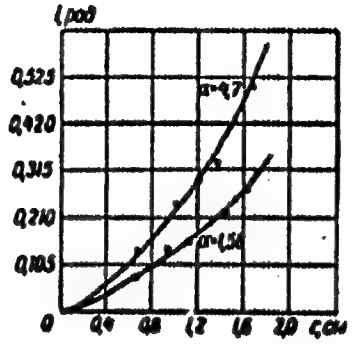
ACCESSION NR: AT4036061 ENCLOSURE: 02



Dependence of turning angle on the radius

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B104/B102

26.2371

AUTHORS: Zykov, V. G., Il'yenko, B. P., Lats'ko, Ye. M., Stepanenko, I. A., Ternopol, A. M., Tolok, V. T., and Sinel'nikov, K. D.

TITLE: Investigation into the properties of magnetic surfaces in systems with a helical magnetic field

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 10, 1962, 1190-1196

TEXT: The shapes of the magnetic surfaces in systems with stabilizing helical windings were studied by the method of the preceding electron beam, developed by P. V. Karmanov and P. A. Cheremnykh at the Institut atomnoy energii im. I. V. Kurchatova (Institute of Atomic Energy imeni I. V. Kurchatov) and by injecting plasma clouds into a right cylinder with a three-turn coil, or by injecting them into the curvilinear section of a stellarator model. In the experiments with the preceding electron beam a fluorescent screen was used in the right cylinder (Fig. 1); in the experiments with the plasma clouds special targets were used, superficially [illegible]red by the plasma particles. If no current flows in the helical [illegible] the electron beam forms concentric circles on the fluorescent

screen. As the amperage in the helical winding increases, the circles degenerate to triangles, whose sides later bend inward. The largest and smallest radii of the separatrices measured as functions of I_{hel}/H_z, and the distortions of the magnetic surfaces caused by deviations of the magnetic axis from the geometric axis, are in agreement with theoretical results. The cross sections of the plasma clouds were studied as functions of I_{hel}/H_z in clouds completely filling the cross section of the tube, and in clouds partially screened by diaphragms. In the former case two types of particles were distinguished, one type remaining trapped in the central part of the cloud bounded by a separatrix, the other escaping from the confinement region. In the second case all plasma particles remained in the confinement region if the radius of the separatrix exceeded that of the clouds, but if it was smaller the same result was obtained as in the first case. The separatrix is a function of the confining induction and of the amperage in the helical windings. This agrees with the theory. The magnetic surfaces in the curvilinear chamber of a stellarator model was studied by the same methods, yielding practically the same results with the electron beam as those obtained with the right cylinder. It is only in the

initial stage of the discharge that the electrons escape to the copper-walls of the vacuum chamber (diameter 80 mm) which was shaped as a semi-tore (mean radius of curvature 42 cm). It is concluded that at low velocities and small densities the plasma particles move along the lines of the magnetic field. There are 8 figures.

SUBMITTED: November 29, 1961

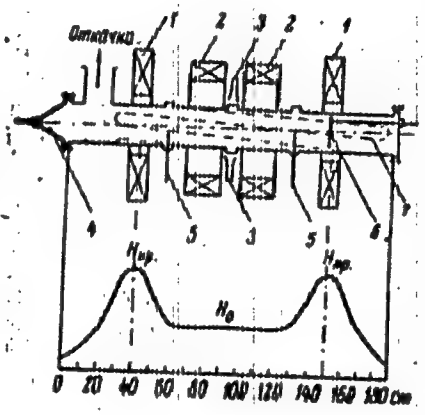

Fig. 1. Experimental arrangement (right cylinder).
Legend: (1) coils producing the magnetic mirror field; (2) coils producing the main field; (3) mouthpiece for 3-cm waves; (4) conic plasma gun; (5) electric probes; (6) fluorescent screen; (7) helical winding.

L 3612-66 EWT(1)/ETC/EPF(n)-2/EWG(m)/EPA(w)-2 IJP(c) AT

ACCESSION NR: AP5024035 UR/0057/65/035/009/1594/1597

44.55 44.55 44.55 533.9 49

AUTHOR: Il'yenko, B.P.; Lats'ko, Ye.M.; Zalkind, V.M.; Zykov, V.G. 44.55 B

TITLE: Investigation of the polarization of a plasma moving in a helical magnetic field

44.55

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 9, 1965, 1594-1597

TOPIC TAGS: inhomogeneous plasma, electric field, toroidal geometry, longitudinal magnetic field, helical magnetic field

ABSTRACT: The authors have investigated the effect of an additional triple helical magnetic field on the polarization of plasmas moving in a toroidal magnetic field. The longitudinal magnetic field (up to 200 kA/m) was produced in a 4 cm radius U-shaped copper drift tube by suitable windings powered with dc generators. The large radius of the toroidal section of the drift tube was 42 cm and the straight legs were 80 cm long. The helical field was produced by a 134 cm reciprocal pitch 5.4 cm radius triple helical winding carrying currents up to 3 kA. Plasmas with ion densities exceeding 10^{12} cm^{-3} were injected at one end by a conical plasma gun. The electric (polarization) field in the plasma was measured with a plane probe at the exit from the toroidal section; this probe could be rotated in

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ACCESSION NR: AP5024035

azimuth in order accurately to determine the direction of the polarization. In the absence of the helical field, the polarization vector rotated through an angle of $\pi/2$ when the longitudinal field was reversed; this behavior is in agreement with theory (N.A.Khizhnyak. Fizika plazmy i problemy upravleniya termoyadernogo sinteza, No. 4, Izd. AN USSR, Kiyev, 1962). Application of the helical field did not decrease the polarization but rotated its direction through an angle corresponding to the rotation of the lines of force; this rotation was $\pi/3$ radians when the longitudinal field strength was 160 kA/m and the current in the helical winding was 3 kA. The density of the plasmas at the exit from the toroidal section was measured with a screened probe. In the absence of the helical field the plasma density was approximately 8×10^{10} cm^{-3} when the longitudinal field strength was 40 kA/m and 6×10^{11} cm^{-3} when the longitudinal field strength was 200 kA/m. Application of the helical field (when the longitudinal field was 56 kA/m) increased the plasma density at the exit from the toroidal section by as much as a factor 10. This increase was greater for the slower components of the plasma burst than for the faster components. Orig. art. has: 1 formula and 8 figures.

ASSOCIATION: none

SUBMITTED: 18Dec64 ENCL: 00 SUB CODE: ME

Card 2/2 NR REF SOV: 003 OTHER: 000

L 3611-66 EWT(1)/ETC/EPF(n)-2/EWG(m)/EPA(w)-2 IJP(c) AT

ACCESSION NR: AP5024036 UR/0057/65/035/009/1598/1601

AUTHOR: Il'yenko, B.P.; Lata'ko, Ye.M.; Zalkind, V.M.; Zykov, V.G.; Tolok, V.T.

TITLE: Investigation of the polarization of a plasma moving in a toroidal magnetic field

SOURCE: Zurnal tekhnicheskoy fiziki, v. 35, no. 9, 1965, 1598-1601

TOPIC TAGS: inhomogeneous plasma, electric field, toroidal geometry, longitudinal magnetic field

ABSTRACT: The authors measured the polarization of plasmas moving in a toroidal magnetic field. The magnetic field (up to 200 kA/m) was produced in a U-shaped copper drift tube (diameter not given). The large radius of the toroidal section of the drift tube was 42 cm and the straight legs were 60 cm long. Plasmas with ion densities exceeding 10^{13} cm^{-3} were injected at one end of the drift tube with a conical plasma gun powered by the 8-12 kV 0.5 μ sec discharge of a 3 μfd capacitor. The charged particle density of the injected plasmas was not less than 10^{13} cm^{-3}. The electric field polarization in the plasma was measured with probes at the exit from the toroidal section. The polarization field had components in the direction

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ACCESSION NR: AP5024036

of the large radius of the torus and in the direction of the axis of the torus. The axial component changed sign when the direction of the longitudinal field was reversed, and the component did not. The distribution of the polarization field across the section of the drift tube and the variation of the polarization field with the longitudinal magnetic field strength were measured and are presented graphically. By comparing the time of maximum polarization with that at which a 3 cm wave crossing the drift tube was cut off by the plasma, it was established that the polarization was confined almost entirely to the more rapid, less dense leading portion of the plasma burst. Orig. art. has: 8 figures.

ASSOCIATION: none

SUBMITTED: 18Dec64 ENCL: 00 SUB CODE: ME

NR REF SOV: 002 OTHER: 002

Card 2/2

L 3610-66 ETC/EPF(n)-2/ENG(m)/EPA(w)-2 IJP(c) AT

ACCESSION NR: AP5024037 UR/0057/65/035/009/1601/1605

AUTHOR: Il'yenko, B. P.; Lats'ko, Ye. M.; Zalkind, V. M.; Zykov, V. G.; Tolok, V. T.

TITLE: Investigation of the polarization of plasmas moving in magnetic fields of opposite curvatures

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 9, 1965, 1601-1605

TOPIC TAGS: inhomogeneous plasma, electric field, toroidal geometry, longitudinal magnetic field,

ABSTRACT: The authors measured the polarization of plasmas moving in a toroidal magnetic field, using the apparatus described in the two accompanying papers (ZhTF 35, 1598, 1601, 1965 [see abstracts AP5024035 and AP5024036]) and, in addition, a 7.4 cm diameter S-shaped copper drift tube consisting of two half-tori of 35 cm large radius joined by a 20 cm long straight section. A longitudinal magnetic field of 200 kA/m was maintained in both drift tubes. Plasmas could be injected at either or both ends of both drift tubes by means of conical plasma guns. The polarization of the plasmas was measured with probes located at the center of the toroidal section of the U-shaped drift tube and in the straight section joining the

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L 3610-66

ACCESSION NR: AP5024037

two half-tori of the S-shaped drift tube. The polarization is analyzed in terms of three components V_z, V_R, and V_r: V_z is parallel to the axis of the torus, V_R is in the direction of the large radius of the torus, and V_r is in the plane of V_z and V_R and is directed away from the axis of the drift tube (along the small radius of the torus). It was found that V_z changes sign when the direction of the magnetic field is reversed but not when the direction of motion of the plasma through the U-shaped drift tube is reversed without reversing the field. When the direction of motion of the plasma through the S-shaped drift tube was reversed, however, the V_z component of the polarization measured in the straight section joining the two half-tori changes sign. When two oppositely moving plasmas collided in the center of the U-shaped drift tube the value of V_z was approximately the same as when only one plasma was present. When two oppositely moving plasmas collided in the straight section joining the two half-tori of the S-shaped drift tube, the V_z polarization components of the two plasmas canceled each other and only V_r was measured. The distributions of V_z and V_r across the drift tube are presented graphically. It was found that V_z and V_r are of comparable magnitude in the fast leading edge of the plasma burst, but that V_z predominates in the tail. Orig. art. has: 8 figures.

Card 2/3

L 3610-66

ACCESSION NR: AP5024037

ASSOCIATION: none

SUBMITTED: 18Dec64 ENCL: 00 SUB CODE: ME

NO REF SOV: 002 OTHER: 002

Card 3/3

L 12362-66 EWT(1)/ETC(F)/EPF(n)-2/EWG(m) IJP(c) AT

ACC NR: AT5022298 SOURCE CODE: UR/3137/64/000/048/0001/0015

AUTHOR: Il'yenko, B. P.; Lats'ko, Ye. H.; Zalkind, V. M.; Zykov, V. G.; Tolok, V. T.

ORG: Physicotechnical Institute, Academy of Sciences UkrSSR (Fiziko-tekhnicheskiy institut Akademiya nauk UkrSSR)

TITLE: Investigation of a plasmoid moving in a toroidal magnetic field

SOURCE: AN UkrSSR. Fiziko-tekhnicheskiy institut. Doklady, no. 048/P-007, 1964. Issledovaniye plazmennogo sgustka, dvizhushchegosya v toroidal'nom magnitom pole, 1-15

TOPIC TAGS: plasmoid, plasma magnetic field, plasma density, plasma injection

ABSTRACT: The present paper is a continuation of an investigation of electrical fields in plasmoids moving in curved magnetic fields. Fig. 1 shows the general view of the experimental apparatus used in the investigation. The maximum magnetic field was 200 ka/m, length of vacuum tube was 252 cm, effective radius of spiral windings was 5.4 cm. The plasma was injected from conical plasma sources. Battery capacity was

Card 1/2

L 12862-66

ACC NR: AT5022298

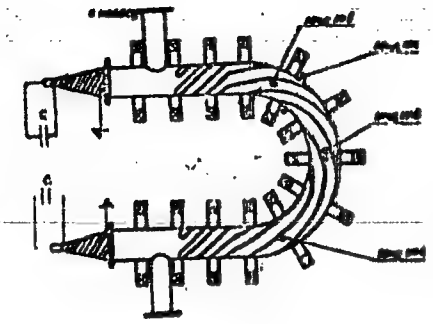

Fig. 1.

3 μf and discharge time 6.5 μsec. Plasma density injected by the source was not less than 10^{13} cm^{-3}. To measure the difference of potentials between two points in the plasma, two electrostatic probes were used: one grounded and located close to the wall of the chamber and the second moving along the cross section of the vacuum chamber. Measurements of the V_z component of the field was taken in the middle of toroidal portion. The Z-direction is parallel to the axis through the origin of the large radius of curvature. It is confirmed that component V_z is formed due to the separation of charges resulting from the drift forces. It was noticed that in the curved section, the components of the plasmoid's radial polarization were equal to the V_z component. Later, the V_z component dominated the other two components. Measurements confirm the fact that the magnetic field of spiral type improves the passing of plasmoids by about one order of magnitude. Orig. art. has: 13 figures.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 005/ OTH REF: 001

Card 2/2 HW

IL'YENKO, [illegible], inzh.

Dependence of the resistance of an arc on the speed of change of the heat content. Energ. i elektrotekh. prom. no.3:44-46 Jl-S '65. (MIRA 18:9)

VOLZHENSKIY, A.V., prof., zasluzhennyy deyatel' nauki i tekhniki RSFSR;
IL'YENKO, I.A., aspirant

Heavy and light concretes with binders of granulated clinkers.
Stroi.mat. 8 no.1:31-35 Ja '62. (MIRA 15:5)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Volzhenskiy).
(Concrete)

VOLZHENSKIY, A.V., laureat Leninskoy premii, prof., doktor tekhn.nauk; VOROB'YEV, I.A.; GLADKIKH, K.V., inzh.; VINOGRADOV, B.N., inzh.; IL'YENKO, I.A., inzh.

Use of binding materials made of granulated fuel slag for the manufacture of wall materials. Stroi. mat. 8 no.5:5-8 My '62. (MIRA 15:7)

1. Direktor zavoda stenovykh blokov No.21 Glavnogo upravleniya promyshlennosti stroitel'nykh materialov pri ispolnitel'nom komitete Moskovskogo gorodskogo Soveta deputatov trudyashchikhsya (for Vorob'yev).

(Slag)
(Building materials)

VOLZHENSKIY, A.V., prof., zasluzhennyy deyatel' nauki i tekhniki RSFSR; IL'YENKO, I.A., insh.; VINOGRADOV, B.N., insh.

Deformation and strength properties of concretes made with binding materials based on fuel granulated slags. Bet. i zhel.-bet. 8 no.12:549-553 D '62. (MIRA 16:2)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Volzhenskiy).
(Concrete--Testing)
(Slag)

IL'YENKO, M.P.

On the bridge train. Put' i put.khoz. no.10:28-29 O '59.
(MIRA 13:2)

1. Nachal'nik proizvodstvenno-tekhnicheskogo otdela, stantsiya Panki.
(Railroad bridges)

IL'YENKO, M. S.

IL'YENKO, M.S.; GREBENYUK, A.I.; NIKOL'SKIY, D.N.; STANISLAVSKIY, N.A., inzhener, redaktor; BAYBAKOV, A.B., laureat Stalinskoy premii, inzhener, retsenzent.

[Calculation and design of gears, worm gears and reduction gears; a handbook] Raschet i proektirovanie zubchatykh i chervyachnykh peredach i redukterov; spravochnoe rukovodstvo. Kiev, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry. [Ukr. otd-nie] 1953. 589 p. (MLRA 7:7)

(Gearing--Handbooks, manuals, etc.)

L 31322-66 EWT(m)/EWA(d)/EWP(t) IJP(c) JD

ACC NR: AP5026291 SOURCE CODE: UR/0125/65/000/010/0038/0040

AUTHOR: Alekin, L. Ye. (Candidate of technical sciences); Il'yenko, N. A. (Engineer); Guma, V. V. (Engineer)

ORG: [Alekin, Il'yenko] MVTU im. Baumana

TITLE: Pressure of low-amperage argon arc on the molten pool

SOURCE: Avtomaticheskaya svarka, no. 10, 1965, 38-40

TOPIC TAGS: arc welding, low amperage welding arc, welding technology, welding electrode, molten metal

ABSTRACT: The welding arc exerts a definite mechanical effect, termed arc pressure, on the pool of molten metal. During welding with a nonconsumable electrode, this effect is created chiefly by the pressure of the arc's plasma jet and conditioned by the pinch effect. Since during welding, in an overwhelming majority of cases, the electrode is positioned at right angles to the weldment, the molten pool is acted upon not only by arc pressure but also by the electromagnetic force of the welding circuit. In this connection, the authors designed a special setup for measuring the pressure of low-amperage argon arc on the molten pool during welding with a nonconsumable electrode (see Fig. 1 of the Enclosure). Its principal feature is mobile rod 5, with plate 6 of OKh13N9T stainless steel attached to one end of the rod and counter.

UDC: 621.791.856

1/3

L 31322-66
ACC NR: AP5026291

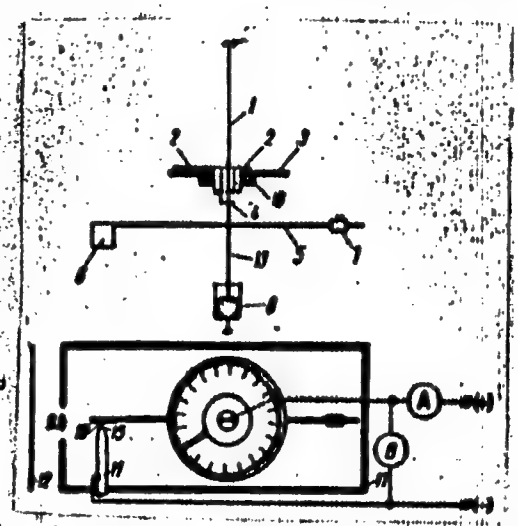

Fig. 1. Setup for determining arc pressure
3 -scale; 8 - mercury contact; 10 - arc; 11 - welding torch; 16 - fixed base; 17 - protective casing; for the other designations consult the text

2/3

weight 7 attached to its other end. Soldered to rod 5 is copper rod 13, with one end immersed in a mercury bath and with thin silk thread 1 tied to the other end. In this position, mobile rod 5 is in a state of equilibrium. Arc pressure is balanced by means of helical spring 4, one end of which is affixed to rod 13 and the other end, to bushing 2 with a pointer. The arc burns between plate 6 and electrode 15. By means of lens 9 the arc is projected onto screen 12 with tenfold magnification. The experiment is performed as follows: Gas is turned on, thus deviating the mobile part of the device. This deviation is compensated by the bushing with helical spring 4. Bushing 2 rotates until the necessary distance is established between electrode 15 and plate 6. Then the pointer of the device indicates the gas pressure (in mg). The arc ignites. Its pressure is balanced by further rotation of bushing 2 until the necessary arc length is obtained. The difference in readings gives the arc pressure. The length of the arc is determined from its projection onto screen 12. In this way, it was determined that during welding with a 2-13 a argon arc by means of a tungsten electrode (1.5 mm diameter) the arc pressure on the molten pool varies from 0.2 to 10.5 mg and is directly proportional to the square of current intensity. As the arc length increases, the arc pressure decreases insignificantly. A change of 50% in the flow rate of protective gas does not appreciably affect the arc pressure. Orig. art. has: 3 figures.

SUB CODE: 11,13/ SUBM DATE: 19Nov64/ ORIG REF: 005/ OTH REF: 003

L 9536-66 EWT(m)/EWA(d)/EWP(t)/EWP(z)/EWP(b) MJW/JD

ACC NR: AP5026291 SOURCE CODE: UR/0125/65/000/010/0038/0040

AUTHOR: Alekin, L. Ye. (Candidate of technical sciences); Il'yenko, N. A. (Engineer); Guma, V. V. (Engineer)

ORG: [Alekin, Il'yenko] MVTU im. Baumana

TITLE: Pressure of low-amperage argon arc on the molten pool

SOURCE: Avtomaticheskaye svarka, no. 10, 1965, 38-40

TOPIC TAGS: arc welding, low amperage welding arc, welding technology, welding electrode, molten metal

ABSTRACT: The welding arc exerts a definite mechanical effect, termed arc pressure, on the pool of molten metal. During welding with a nonconsumable electrode, this effect is created chiefly by the pressure of the arc's plasma jet and conditioned by the pinch effect. Since during welding, in an overwhelming majority of cases, the electrode is positioned at right angles to the weldment, the molten pool is acted upon not only by arc pressure but also by the electromagnetic force of the welding circuit. In this connection, the authors designed a special setup for measuring the pressure of low-amperage argon arc on the molten pool during welding with a nonconsumable electrode (see Fig. 1 of the Enclosure). Its principal feature is mobile rod 5, with plate 6 of 0Kh18N9T stainless steel attached to one end of the rod and counter-

Card 1/3 UDC: 621.791.856

L 9535-66

ACC NR: AP5026291

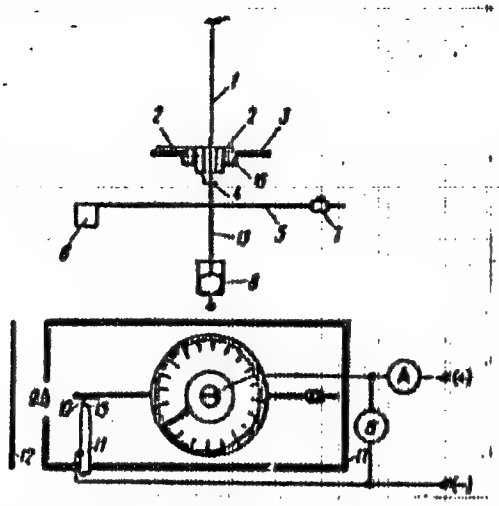

Fig. 1. Setup for determining arc pressure

3 - scale; 8 - mercury contact; 10 - arc; 11 - welding torch; 16 - fixed base; 17 - protective casing; for the other designations consult the text

Card 2/3

L 19536-66
ACC NR: AP5026291

weight 7 attached to its other end. Soldered to rod 5 is copper rod 13, with one end immersed in a mercury bath and with thin silk thread 1 tied to the other end. In this position, mobile rod 5 is in a state of equilibrium. Arc pressure is balanced by means of helical spring 4, one end of which is affixed to rod 13 and the other end, to bushing 2 with a pointer. The arc burns between plate 6 and electrode 15. By means of lens 9 the arc is projected onto screen 12 with tenfold magnification. The experiment is performed as follows: Gas is turned on, thus deviating the mobile part of the device. This deviation is compensated by the bushing with helical spring 4. Bushing 2 rotates until the necessary distance is established between electrode 15 and plate 6. Then the pointer of the device indicates the gas pressure (in mg). The arc ignites. Its pressure is balanced by further rotation of bushing 2 until the necessary arc length is obtained. The difference in readings gives the arc pressure. The length of the arc is determined from its projection onto screen 12. In this way, it was determined that during welding with a 2-13 a argon arc by means of a tungsten electrode (1.5 mm diameter) the arc pressure on the molten pool varies from 0.2 to 10.5 mg and is directly proportional to the square of current intensity. As the arc length increases, the arc pressure decreases insignificantly. A change of 50% in the flow rate of protective gas does not appreciably affect the arc pressure. Orig. art. has: 3 figures.

SUB CODE: 11,13/ SUBM DATE: 19Nov64/ ORIG REF: 005/ OTH REF: 003

3/3
Card

ACC NR: AP7004192 SOURCE CODE: UR/0125/67/000/001/0019/0021

AUTHOR: Alekin, L. Ye.; Il'yenko, N. A.

ORG: MVTU im. N. E. Bauman

TITLE: Effect of welding conditions and accuracy of assembling of the welded joint on the formation of the suspension weld

SOURCE: Avtomaticheskaya svarka, no. 1, 1967, 19-21

TOPIC TAGS: stainless steel, welding technology, butt welding, automatic welding, weld evaluation/ OKh18N9T stainless steel

ABSTRACT: Although the common consensus is that the butt welding of thin metal sections must follow a rigorously maintained welding regime, there is no direct proof of this. Previous studies of the dependence of geometrical dimensions of the weld in such cases pertained to continuous metal without any clearance and hence their findings do not reflect all the features of the weld formation in cases where the argon-atmosphere butt welding of joints, and particularly pipe joints, is performed by automatic welding machines so that at first the weld takes form by gravity. To determine the accuracy with which the automatic welding machine must maintain the parameters of the welding process it is primarily necessary to investigate the effect of welding current, welding voltage and welding rate on the geometrical dimensions of the

UDC: 621.791.856.02:669.15-194

ACC NR: AP7004192

weld. Accordingly, the authors investigated the argon-arc nonconsumable-electrode welding of OKh18N9T stainless steel 0.2 and 1 mm thick, performed so as to preclude any constriction of the clearance between the specimens during the welding. The geometrical dimensions of the weld were determined with the aid of an epidioscope. These experiments showed that the welding of the 1 mm thick metal over a clearance of the width 0.1 mm does not result in any explicit burnout or poor penetration or weakening of the weld when the current I_w is varied from 55 to 130 a; the arc length L_a, from 0.15 to 1.3 mm; the arc voltage U_a, from 7 to 8 v; and the welding rate v_w, from 15 to 35 m/hr. A similar pattern was observed for the metal 0.2 mm thick. Nevertheless it turns out that considerations of weld geometry require some restriction of this range of variation in energy parameters. Thus, e.g. for the 1 mm thick steel with a clearance of 0.1 mm it is desirable that L_a = 0.4-1.30 mm; I_w = 55-80 a; U_a = 7-8 v; v_w = 15-35 m/hr. A similar range of variations in energy parameters should be followed in the case of clearance-free welding or toe welding of metals of the same thickness. Orig. art. has: 3 fig. and 1 table.

SUB CODE: 13, 11/ SUBM DATE: 18Jul66/ ORIG REF: 005

Card 2/2

S/123/59/000/008/023/043
A004/A002

Translation from: Referativnyy zhurnal, Mashinostroyeniye, 1959, No. 8, p. 88, # 29238

AUTHOR: Il'yenko, N. M.

TITLE: Mechanical Flaring of Steel Tubes of 20-25 mm Diameter on a Radial Drilling Machine

PERIODICAL: Prom-st' Kubani (Sovnarkhoz Krasnodarsk. ekon. adm. r-na), 1958, Nos. 1-2, p. 18

TEXT: Bibliographic entry

Card 1/1

ASNIS, Ye.A., insh.; IL'YENKO, N.P., insh.

Application of the UONII-13 electrodes for welding different types of steel. Khim.mashinostr. no.2:38-39 Mr-Ap '63. (MIRA 16:4)
(Steel—Welding)

Ильченко О.Г.

IL'YENKO, O.G., kand. tekhn. nauk.

Studying some physical and chemical properties of scaly ceresin. Trudy NPI 27:61-71 '56. (MIRA 10:12)

1. Starshiy prepodavatel' Kafedry obshchey, neorganicheskoy i organicheskoy khimii Novocherkasskogo politekhnicheskogo instituta.
(Ceresin)

IL'YENKO, O.G.; PEROV, Ye.V., kand. tekhn. nauk, otv. red.; DUROV, S.A., doktor khim. nauk, red.; PONOMAREV, I.F., doktor khim. nauk, red.; MOROZOVA, A.I., kand. khim. nauk, red.; TORGASHEV, P.D., kand. khim. nauk, red.; POGREBTSOVA, L.V., red. izd-va; NAUMOVA, Yu.A., tekhn. red.

[Motor-vehicle fuels and lubricants]Avtomobil'nye topliva i smazochnye materialy. Novocherkassk, Redaktsionno-izdatel'skii otdel NPI, 1960. 112 p. (MIRA 15:11)
(Motor vehicles—Lubrication) (Motor fuels)

ILYENKO, O.S. [Il'enko, O.S.]

Integration of the differential equation of an arc column with isothermal plasma cooled by means of heat conductivity. Dop. AN URSR no.7:925-929 '64. (MIRA 17:9)

1. Kiyevskiy politekhnicheskiy institut. Predstavlono akademikom B.Ye.Patonom [Paton, B.IE.].

FEDCHENKO, I.K.; IL'YENKO, O.S. [Il'ienko, O.S.]

Study of the dependence of the radius of a d.c. arc on the current intensity and temperature. Dop. AN URSR no.9:1187-1191 '64. (MIRA 17:11)

1. Kiyevskiy politekhnicheskiy institut. Predstavleno akademikom B.Ye. Patonom [Paton, B.IE.].

FEDCHENKO, I. K., doktor tekhn. nauk, prof.; IL'YENKO, O. S., inzh.

Determination of the critical parameters of an open a.c. arc using an energy balance technique. Izv. vys. ucheb. zav.; energ.7 no.5:20-28 My '64. (MIRA 17:7)

1. Kiyevskiy ordena Lenina politekhnicheskiy institut. Predstavlena kafedroy tekhniki vysokikh napryazheniy.

ACCESSION NR: AP4040323 S/0057/64/034/006/1132/1136

AUTHOR: Il'yenko, O.S.

TITLE: Concerning the backward motion of the cathode spot of an arc in a magnetic field (Letter to the editor)

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.6, 1964, 1132-1136

TOPIC TAGS: electric arc, cathode spot, Hall effect, magnetic phenomena

ABSTRACT: An explanation is offered for the backward motion of the cathode spot of an arc in a transverse magnetic field, based on the large difference between the Hall coefficients of the arc column and the metal of the electrode. The Hall coefficient of the arc is large because of the large mobility of the electrons and the relatively small mobility of the ions. The Hall emf is accordingly much greater in the arc than in the metal, and circulating currents consequently arise which cross the arc column in the direction of the Hall emf and return through the metal electrode. These currents are strongest near the electrode because of the resistance of the arc. The magnetic field of these circulating currents is opposed to the external magnetic field that induces them. Although this secondary magnetic field obvi-

Card 1/2

ACCESSION NR: AP4040323

ously cannot everywhere exceed the external field that gives rise to it, it is assumed that under suitable conditions the secondary magnetic field can become greater than the applied field in the immediate vicinity of the electrode. When this is the case, the ponderomotive force on the material of the arc is in the opposite direction to that which would result from the applied field alone, and the cathode spot moves "backward". This suggested explanation is not developed into a quantitative theory, but a number of features of backward cathode spot motion are interpreted qualitatively. It is concluded that the Hall effect plays a decisive role in the backward motion of the cathode spot of an arc in a magnetic field. Orig.art. has: 6 formulas and 1 figures.

ASSOCIATION: Kiyevskiy politekhnicheskiy institut (Kiev Polytechnic Institute)

SUBMITTED: 18May63 DATE ACQ: 18Jun64 ENCL: 00

SUB CODE: EM NR REF SOV: 004 OTHER: 001

Card 2/2

IL'YENKO, O.S.

Reversed motion of the cathode dark space of the arc in a magnetic field. Zhur. tekh. fiz. 34 no.6:1132-1136 Je '64. (MIRA 17:9)

1. Kiyevskiy politekhnicheskiy institut.

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R000618520015-3"

ILYENKO, O.V.

124-11-13315

Translation from: Referativnyy Zhurnal, Mekhanika, 1957, Nr 11, p 145 (USSR)

AUTHORS: Pukhov, G. Ye., Ilyenko, O. V., Chegolin, P. M.

TITLE: Electrical Simulation of a Flexible Bar. (Elektricheskiye modeli izgibayemogo sterzhnya.)

PERIODICAL: V sb.: Elektr.modelirovaniye balok i ram, Taganrog, 1956, pp 17-21

ABSTRACT: Bibliographic entry

Card 1/1

124-1957-10-12083

Il'yenko, O. V.

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 10, p 124 (USSR)

AUTHOR: Il'yenko, O. V.

TITLE: The Calculation and Simulation of Hinged Girders (Raschet i modelirovaniye razreznykh balok)

PERIODICAL: V sb.: Elektr. modelirovaniya balok i ram. Taganrog, 1956, pp 28-36

ABSTRACT: Bibliographic entry

Card 1/1

ILYENKO, O. V.

124-1957-10-12077

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 10, p 123 (USSR)

AUTHOR: Il'yenko, O. V.

TITLE: Determination of the Bending and Torque Moments in Simple Cross Beams and in Beams Having a Broken Plan Form (Opredeleniye izgibayushchikh i krutyashchikh momentov v prostykh perekrestnykh i lomanykh v plane balok)

PERIODICAL: V sb.: Elektr. modelirovaniye balok i ram. Taganrog, 1956, pp 50-58

ABSTRACT: Bibliographic entry

Card 1/1

IL'YENKO, O. V., Cand Tech Sci -- (diss) "Designing and modeling of certain plane and space-~~[illegible]~~ Cond. systems by means of quadripole electric analog schemes ~~schematic analogs~~." Taganrog, 1957. 8 pp (Min of Higher Education USSR, L'vov Polytechnic Inst), 200 copies (KL, 1-58, 118)

SOV/112-59-1-87

8 (0)

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 1, p 7 (USSR)

AUTHOR: Il'yenko, O. V.

TITLE: Electric Simulator for Determining Bending Moments and Twisting Moments in Planar and Spatial Beams and Trusses

PERIODICAL: V sb.: Mezhvuz. konferentsiya po primeneniyu modelirovaniya v elektrotekhn. zadachakh i matem. modelirovaniya. M., 1957, pp 168-169

ABSTRACT: A simulator has been constructed for investigating the following systems: (1) spatial trusses with rigid joints, with up to 15 bars, with one closed diagram; (2) continuous and hinged beams with up to 10 spans; (3) a planar truss with rigid and nonrigid joints, 10 bars, and with one closed diagram. The systems under investigation may be subjected to various external factors: (a) forces, (b) temperatures, (c) displacements of supports or other links. In case of a planar framework, an allowance may be made for an elastic constraining of the uprights. The simulator can serve for

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SOV/112-59-1-87

. . . Electric Simulator for Determining Bending Moments and Twisting Moments . . . .

determining the bending-moment epure and for constructing the elasticity line along a bar from specified values of turning angles and bending moments at the bar's ends. The simulator is AC supplied and comprises wire-wound rheostats (no detailed description of its circuit diagram is supplied). The results obtained from the simulator differ from those calculated by 5% or less.

L.V.N.

Card 2/2

AUTHOR FUKHOV G.Ye., Dr.techn.Prof., IL'YENKO O.V., Ing., CHAGOLIN P.M., Ing. PA - 3104

TITLE Electrical Models for a Bendable Beam. (Elektricheskiye modeli izgibayemogo sterzhnya - Russian)

PERIODICAL Elektrichestvo, 1957, Vol 7, Nr 5, pp 45 - 47, (U.S.S.R.)
Received 6/1957 Reviewed 7/1957

ABSTRACT Several different electrical models of a bendable beam were proposed. These models do not have negative resistances and are therefore free of the defects which are usually connected with the electronic amplifier provided models. One of the schemes is, because of the unsymmetry in regard to the longer axis, usable only for modelling in those beam systems which do not produce a closed current system. There is also a system shown which is symmetrical in regard to the longer axis. A scheme without negative resistance can be maintained by means of a contact closing of quadripoles from resistances with an ideal transformer, whereby the transformer coefficient is 1:1.
(With 6 ill. and 3 Slavic references)

ASSOCIATION Radio Technical Institute of Taganrog

PRESENTED BY
SUBMITTED 13.4.1956
AVAILABLE Library of Congress

Card 1/1

IL'YENKO, O.V., kand.tekhn.nauk; USYNIN, V.I., inzh.

The EMSS-1 electric analyzer for designing beams and frames.
Trudy RISI no.11:45-49 '58. (MIRA 13:5)

1. Taganrogskiy radiotekhnicheskiy institut.
(Girders--Electromechanical analogies)
(Structural frames--Electromechanical analogies)

IL'YENKO, O.V., kand.tekhn.nauk

Designing beams and flat frames for thermal effects by means of electrical analogies. Trudy RISI m.11:63-67 '58. (MIRA 13:5)

1. Taganrogskiy radiotekhnicheskiy institut.
(Girders--Electromechanical analogies)
(Structural frames--Electromechanical analogies)

PUKHOV, G.Ye., prof., doktor tekhn. nauk; IL'YENKO, O.V., kand.tekhn.nauk

Taking into account bends in foundations of supports in designing electric analyzers for frames. Trudy RISI no.11:72-75 '58. (MIRA 13:5)

1. Taganrogskiy radiotekhnicheskiy institut.
(Foundations)
(Structural frames--Electromechanical analogies)

PUKHOV, G.Ye., prof., doktor tekhn.nauk; IL'YENKO, O.V., kand.tekhn.nauk

Electric analyzers for beams and frames on solid elastic basis and rigid supports. Trudy RIRI no.11:130-135 '58. (MIRA 13:5)

1. Taganrogskiy radiotekhnicheskiy institut.
(Structural frames--Electromechanical analogies)
(Girders--Electromechanical analogies)

IL'IENKO, S. [Il'ienko, S.]

Lost solution. Znan. ta pratsia no.1:14-15 Ja '62. (MIRA 15:1)
(Numbers, Theory of)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R000618520015-3"

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USSR/Mines and Mining
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"Stripping by Hydromechanisms," V. G. Il'yenko
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The author conducted this method of working a shaft at Krivoy Rog. This was a research project by the Krivoy Rog NIGRI. Diagram of operation. The small range of operations prevents full evaluation of the effectiveness of this method.

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